What is claimed is:

1. A method of generating an optimum recording power for an optical recording medium in which land and groove signal tracks composed of a plurality of sectors are provided, data can be recorded in one of the signal tracks, and position information on the signal track where the data can be recorded is pre-pitted by a high frequency signal and recorded in the other signal track, and control information is wobbled in the signal tracks, the method comprising the steps of:

synchronizing the sectors of a test area on the optical recording medium to perform an optimum power calibration (OPC);

generating a recording pattern for performing the OPC;

recording the recording pattern in a specified sector of the synchronized unrecorded test area as changing a recording power on the basis of a reference recording power recorded on the optical recording medium;

reproducing the data recorded in the specified sector with the respective changed recording power, and determining the optimum recording power from the characteristic of a reproduced signal; and

recording user data in a predetermined user data area of the optical recording medium with the determined optimum recording power.

2. The method as claimed in claim 1, wherein the synchronizing step comprises the steps of:

detecting the signal wobbled on the signal track;

PLL-locking the wobble signal, and outputting the PLL-locked wobble signal; and

detecting a start position of the respective sector by counting the PLL-locked wobble signal.

3. The method as claimed in claim 2, wherein the counting step resets and starts the counting operation in the start position of a first sector of an ECC block that is a data recording/reproducing unit.

4. The method as claimed in claim 2, wherein the recording pattern recorded at the recording step is recorded in synchronization with the PLL-locked wobble signal.

5. The method as claimed in claim 1, wherein the recording power at the recording step is changed into N (N is a natural number) levels for one sector.

6. The method as claimed in claim 5, wherein N is 13.

7. The method as claimed in claim 5, wherein at the recording step, in the specified sector where the OPC is performed is recorded the recording pattern generated at the recording step as the recording power is changed for every two synch frames.

8. The method as claimed in claim 1, wherein the recording pattern generating step generates a longest time period (T) (corresponding to a length for one clock pulse) and a shortest T as the recording pattern, and records the longest T and the shortest T with the same recording power for every two sync frames in the corresponding sector.

9. The method as claimed in claim 8, wherein the optimum recording power determining step comprises the steps of:

generating a radio frequency (RF) signal using electric signals corresponding to a light quantity reflected from the sector where the OPC is performed;

AC-coupling the RF signal, and biasing the AC-coupled RF signal with a reference voltage;

detecting a peak envelope and a bottom envelop of the AC-coupled and biased RF signal;

detecting an asymmetric characteristic of the longest T and the shortest T for the respective recording power from the peak envelop and the bottom envelop; and

determining the recording power having a minimum degree of asymmetry in condition that the asymmetric characteristic is within an allowable range as the optimum recording power.

10. The method as claimed in claim 1, wherein the recording pattern generating step generates a longest time period (T) as the recording pattern, and records the longest T with the same

recording power for every two sync frames in the corresponding sector.

11. The method as claimed in claim 10, wherein the optimum recording power determining step comprises the steps of:

generating a radio frequency (RF) signal using electric signals corresponding to a light quantity reflected from the sector where the OPC is performed;

detecting a peak envelope and a bottom envelop of the RF signal;

detecting a modulation amplitude of the longest T for the respective recording power from the peak envelop and the bottom envelop;

generating a gamma curve by obtaining a change rate of the modulation amplitude and a change rate of the recording power; and

selecting the recording power corresponding to a predetermined gamma target in the gamma curve, and determining the optimum recording power by multiplying the selected recording power by a predetermined multiplication factor.

12. The method as claimed in claim 1, wherein the recording pattern generating step generates a long T having a saturation characteristic and a short T having no saturation characteristic as the recording pattern, and records the long T and the short T

with the same recording power for every two sync frames in the corresponding sector.

13. The method as claimed in claim 12, wherein the long T is 14T, and the short T is 3T.

14. The method as claimed in claim 12, wherein the optimum recording power determining step comprises the steps of:

generating an RF signal using electric signals corresponding to a light quantity reflected from the sector where the OPC is performed;

detecting a peak envelope and a bottom envelop of the RF signal;

detecting a center voltage of the long T and a center voltage of the short T for the respective recording power from the peak envelop and the bottom envelop; and

determining the recording power obtained when the coincidence degree of the center voltage of the long T and the center voltage of the short T detected in a saturation area of the long T is within an allowable range as the optimum recording power.

15. The method as claimed in claim 1, wherein the recording pattern generating step generates a single recording pattern of nT, and records the nT with the same recording power for every two sync frames in the corresponding sector.

16. The method as claimed in claim 15, wherein the optimum recording power determining step comprises the steps of:

generating an RF signal using electric signals corresponding to a light quantity reflected from the sector where the OPC is performed;

AC-coupling the RF signal, and biasing the AC-coupled RF signal with a reference voltage;

detecting a jitter characteristic of the AC-coupled and biased RF signal for the respective recording power; and

determining the recording power in a jitter allowable range as the optimum recording power.

17. The method as claimed in claim 16, wherein the optimum recording power determining step determines the recording power whereby a jitter is the minimum as the optimum recording power if the optical recording medium is a recordable optical recording medium.

18. The method as claimed in claim 16, wherein the optimum recording power determining step determines the recording power corresponding to a higher jitter within a jitter allowable range as the optimum recording power if the optical recording medium is a rewritable optical recording medium.

19. The method as claimed in claim 16, wherein the optimum recording power determining step determines the recording power of a position where a differentiated value (dJ/dP) of a jitter

characteristic for each recording power is smaller than a certain experimental value (K) as the optimum recording power if the optical recording medium is a rewritable optical recording medium.

20. The method as claimed in claim 1, wherein the OPC is performed in a direction from an inner periphery to an outer periphery of the test area, and the recording at this time is performed from a low power to a high power.

21. The method as claimed in claim 1, wherein the OPC is performed in a direction from an outer periphery to an inner periphery of the test area, and the recording at this time is performed from a high power to a low power.

22. An apparatus for generating an optimum recording power for an optical recording medium in which land and groove signal tracks composed of a plurality of sectors are provided, data can be recorded in one of the signal tracks, and position information on the signal track where the data can be recorded is pre-pitted by a high frequency signal and recorded in the other signal track, and control information is wobbled in the signal tracks, the apparatus comprising:

a control section for detecting a start position of the respective sector of a test area by counting a PLL-locked wobble signal, and controlling generation of a recording pattern and a recording power for performing an optimum power calibration (OPC);

an encoding section for detecting and PLL-locking the wobble signal formed on the track using an electric signal of a reflected light quantity outputted from the optical recording medium, detecting and decoding a pre-pit signal, and generating the recording pattern for performing the OPC;

a laser power control section for dividing the recording power into several levels on the basis of a reference recording power recorded on the optical recording medium under the control of the control section and outputting the recording power levels;

a recording section for sequentially recording the recording pattern in a specified sector of the unrecorded test area with the several recording power levels changed by and outputted from the laser power control section; and

an optimum recording power determining section for reproducing the data recorded in the specified sector for the respective recording power level, and determining an optimum recording power from the characteristic of a reproduced signal.

23. The apparatus as claimed in claim 22, wherein the control section searches the sector of the unrecorded test area where the OPC is to be performed, and controls the recording of the recording pattern generated by the encoding section as changing the recording power for every N (N is a natural number) sync frames in the searched specified sector.

24. The apparatus as claimed in claim 22, wherein in case that the encoding section generates a longest time period (T) (corresponding to a length for one clock pulse) and a shortest T as the recording pattern, and the recording section records the longest T and the shortest T with the same recording power for every N sync frames in the corresponding sector,

the optimum recording power determining section includes a radio frequency (RF) signal generating section for generating an RF signal using the electric signals corresponding to the light quantity reflected from the sector where the OPC is performed; an RF signal processing section for AC-coupling the RF signal, and biasing the AC-coupled RF signal with a reference voltage; an RF envelop detecting section for detecting a peak envelope and a bottom envelop of the AC-coupled and biased RF signal; and a determining section for detecting an asymmetric characteristic of the longest T and the shortest T for the respective recording power from the peak envelop and the bottom envelop of the RF signal, and determining the recording power having a minimum degree of asymmetry in condition that the asymmetric characteristic is within an allowable range as the optimum recording power.

25. The apparatus as claimed in claim 22, wherein in case that the encoding section generates a longest T as the recording pattern, and the recording section records the longest T with the

same recording power for every N sync frames in the corresponding sector,

the optimum recording power determining section includes an RF signal generating section for generating an RF signal using the electric signals corresponding to the light quantity reflected from the sector where the OPC is performed; an RF envelop detecting section for detecting a peak envelope and a bottom envelop of the RF signal; and a determining section for detecting a modulation amplitude of the longest T for the respective recording power from the peak envelop and the bottom envelop of the RF signal, generating a gamma curve by obtaining a change rate of the modulation amplitude and a change rate of the recording power, selecting the recording power corresponding to a predetermined gamma target in the gamma curve, and determining the optimum recording power by multiplying the selected recording power by a predetermined multiplication factor.

26. The apparatus as claimed in claim 22, wherein in case that the encoding section generates a long T having a saturation characteristic and a short T having no saturation characteristic as the recording pattern, and the recording section records the long T and the short T with the same recording power for every N sync frames in the corresponding sector,

the optimum recording power determining section includes an RF signal generating section for generating an RF signal using

the electric signals corresponding to the light quantity reflected from the sector where the OPC is performed; an RF envelop detecting section for detecting a peak envelope and a bottom envelop of the RF signal; and a determining section for detecting a center voltage of the long T and a center voltage of the short T for the respective recording power from the peak envelop and the bottom envelop of the RF signal, determining the recording power obtained when the coincidence degree of the center voltage of the long T and the center voltage of the short T detected in a saturation area of the long T is within an allowable range as the optimum recording power.

27. The apparatus as claimed in claim 22, wherein in case that the encoding section generates a single recording pattern of nT, and the recording section records the nT with the same recording power for every N sync frames in the corresponding sector,

the optimum recording power determining section includes an RF signal generating section for generating an RF signal using the electric signals corresponding to the light quantity reflected from the sector where the OPC is performed; an RF signal processing section for AC-coupling the RF signal, and biasing the AC-coupled RF signal with a reference voltage; a jitter detecting section for detecting a jitter characteristic of the AC-coupled and biased RF signal for the respective recording

power; and a determining section for determining the recording power in a jitter allowable range as the optimum recording power.